CERTIFICATE

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By the Authority Vested By Part 5 of the United States Code § 552(a) and Part 1 of the Code of Regulations § 51 the attached document has been duly INCORPORATED BY REFERENCE and shall be considered legally binding upon all citizens and residents of the United States of America. ***HEED THIS NOTICE***: Criminal penalties may apply for noncompliance.

Document Name: CSVA: North American Standard Out-of-Service Criteria and Level VI Inspection Procedures and Out-of-Service Criteria for Commercial Highway Vehicles

CFR Section(s): 49 CFR 385.415(b)(1)

Standards Body: Commercial Vehicle Safety Alliance

APPROVED

Official Incorporator:
THE EXECUTIVE DIRECTOR
OFFICE OF THE FEDERAL REGISTER
WASHINGTON, D.C.

NORTH AMERICAN STANDARD OUT-OF-SERVICE CRITERIA

JANUARY 1, 2004

COMMERCIAL VEHICLE SAFETY ALLIANCE

THIS DOCUMENT REPLACES AND SUPERSEDES ALL PREVIOUS OUT-OF-SERVICE CRITERIA

North America's Leading Commercial Vehicle Safety Organization

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CVSA OUT-OF-SERVICE CRITERIA
JANUARY 1, 2004

PART I – DRIVER

PART II – VEHICLE

PART III - HAZARDOUS MATERIALS

Part I

NORTH AMERICAN STANDARD DRIVER OUT-OF-SERVICE CRITERIA

POLICY STATEMENT

The purpose of this part is to identify violations that render the commercial motor vehicle operator unqualified to drive or Out-of-Service. The necessity for all enforcement personnel to implement and adhere to these standards is: (1) a matter of law; (2) perceived as necessary by the society we are charged with protecting, and (3) a professional obligation if substantial enhancement in the safety of commercial motor vehicle operators is to be achieved.

Except where state, provincial, or federal laws preclude enforcement of a named item, motor carrier safety enforcement personnel and their jurisdictions shall comply with these driver Out-of-Service violation standards.

OUT-OF-SERVICE VIOLATION: Violations under this category preclude further operation of a commercial motor vehicle by its driver for a specified period of time or for some violations until a required condition is met. An example of the former standard is hours of service violations.

FMCSR code references in the Out-of-Service Criteria are simply recommendations to help inspectors find an appropriate citation. Other codes may be more suitable for a specific condition.

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1. DRIVER'S AGE

Is not at least 21 years of age (391.11(b)(1) or is not exempted under 390.3(f) or 391.2). **Place driver Out-of-Service.**

2. OPERATOR'S/CHAUFFEUR'S LICENSE OR PERMIT (NON-CDL)

a. Vehicle 26,000 lbs. or less GVWR not designed to transport 16 or more passengers or placarded loads of hazardous materials.

Is not licensed for the type of vehicle being operated. **Place driver Out-of-Service.** (Out-of-Service action to be initiated only upon home jurisdiction license verification.) (391.11(b)(5))

NOTE: "Is not licensed" includes, but is not limited to: improper class, expired, cancelled, revoked, disqualified, suspended, or withdrawn.

b. Endorsements and restrictions

Operating a commercial vehicle without proper endorsement or in violation of restrictions. (391.11(b)(5)) **Place driver Out-of-Service.**

NOTE: Canadian operator's license endorsements are included in the class. Transporting dangerous goods requires a training certificate. **Place driver Out-of-Service if not in possession.**

NOTE: Mexican drivers must have a Category E license to transport hazardous materials. All other endorsements are included in the class. **Place driver Out-of-Service if not in possession.**

3. CDL

a. License

Does not possess a valid CDL issued by his/her state or jurisdiction of domicile. **Place driver Out-of-Service.** (Out-of-Service action to be initiated only upon home jurisdiction license verification.) (383.23(a)(2))

NOTE: "Does not possess a valid CDL" includes, but is not limited to: improper class, expired, cancelled, revoked, disqualified, suspended, or withdrawn.

NOTE: Canadian operators not possessing a valid Provincial or Territorial license of the correct class. **Place driver Out-of-Service.**

NOTE: Mexican operators who do not possess the new Licencia Federal. (Can be recognized by the medallion in the upper left hand corner containing the Mexican national symbol of an eagle with a serpent. The words Licencia Federal de Conductor and logo SCT are also on the front of the license.
Place driver Out-of-Service if not in possession.

b. Learner's permit

Is not accompanied by the holder of a valid CDL. (383.23(c))
Place driver Out-of-Service.

c. Endorsements and restrictions

Operating a commercial vehicle without proper endorsements or in violation of restrictions. (383.23(a)(2)), (391.11(b)(5))
Place driver Out-of-Service.

NOTE: Canadian operator's license endorsements are included in the class. Transporting dangerous goods requires a training certificate.
Place driver Out-of-Service if not in possession of training certificate.

NOTE: Mexican drivers must have a Category E license to transport hazardous materials. All other endorsements are included in the class.

d. Classification

Does not possess proper class of license for vehicle being operated. (383.91(a)) **Place driver Out-of-Service.**

4. DRIVER WAIVER

a. Skills Performance Evaluation

No skills performance evaluation in possession, when required. (391.49(j)) **Place driver Out-of-Service.**

b. Medical Certificate

Operating a commercial vehicle without corrective lenses or hearing aid as indicated on the driver's medical certificate. (391.11(b)(4))
Place driver Out-of-Service.

5. **SICKNESS OR FATIGUE**

When so impaired that the driver should not continue the trip. (392.3)
Place driver Out-of-Service until no longer impaired.

6. **DRIVER DISQUALIFICATION**

Driver disqualification under the provisions of (383.51(a)) or 391.15(a))
Place driver Out-of-Service until requalification is established.

7. **DRUGS AND OTHER SUBSTANCES; AS IDENTIFIED UNDER SECTION 392.4(a).**

a. Shall not be in possession

Is in possession. (392.4(a))
Place driver Out-of-Service for twenty-four (24) consecutive hours.

b. Shall not be under the influence

Is under the influence, with probable cause. (392.4(a))
Place driver Out-of-Service for twenty-four (24) consecutive hours.

8. **INTOXICATING BEVERAGES**

Under the influence of intoxicating beverage, consumes an intoxicating beverage regardless of its alcohol content, or have any measured alcohol concentration or any detected presence of alcohol while on duty, or operating or in physical control of a motor vehicle. (392.5(a))
Place driver Out-of-Service for twenty-four (24) consecutive hours.

Be on duty or operate a motor vehicle while the driver possesses an intoxicating beverage, regardless of its alcohol content. (392.5(a))
Place driver Out-of-Service for twenty-four (24) consecutive hours.

*9. **DRIVER'S RECORD OF DUTY STATUS – US/Mexico**

a. Property-Carrying Vehicles (395.3)

(1) 11 Hour Rule (See footnotes 1,3,4)

Driving more than eleven (11) hours following ten (10) consecutive hours off duty. (395.3(a)(1)) **Place driver Out-of-Service for ten (10) consecutive hours.**

(2) 14 Hour Rule (See footnotes 1,3,4,5)

Driving beyond the fourteenth (14) hour after coming on duty following ten (10) consecutive hours off duty. (395.3(a)(2)) **Place driver Out-of-Service for ten (10) consecutive hours.**

(3) 60/70 Hour Rule (See footnotes 1,3,4,6)

Driving after being on duty more than 60 hours in seven (7) consecutive days or 70 hours in eight (8) consecutive days. (395.3(b)) **Place driver Out-of-Service until such time as eligibility to drive is reestablished.**

(4) No Record of Duty Status (Log Book)

No record of duty status in possession when one is required. (395.8(a)) **Place driver Out-of-Service for ten (10) consecutive hours.**

(5) No Previous 7 Days (see footnote 2)

Failing to have in possession a record of duty status for the previous seven (7) consecutive days. (395.8(k)(2)) See Exception 395.13(b)(3) **Place driver Out-of-Service for ten (10) consecutive hours.**

(6) False Record of Duty Status (Log Book)

A record of duty status that does not accurately reflect the driver's actual activities and duty status (including time and location of each duty status change and the time spent in each duty status) in an apparent attempt to conceal a violation of an hours of service limitation within the current 60/70 hour rule period. (395.8(e)) **Place driver Out-of-Service for ten (10) consecutive hours.**

b. Passenger-Carrying Vehicles (395.5)

(1) 10 Hour Rule (See footnotes 1,3,4)

Driving more than ten (10) hours following eight (8) consecutive hours off duty. (395.5(a)(1)) **Place driver Out-of-Service for eight (8) consecutive hours.**

(2) <u>15 Hour Rule (See footnotes 1,3,4)</u>

Driving for any period after having been on duty fifteen (15) hours following eight (8) consecutive hours off duty. (395.5(a)(2)) **Place driver Out-of-Service for eight (8) consecutive hours.**

(3) <u>60/70 Hour Rule (See footnotes 1,3,4)</u>

Driving after being on duty more than 60 hours in seven (7) consecutive days or 70 hours in eight (8) consecutive days. (395.5(b)(1) or (2)) **Place driver Out-of-Service until such time as eligibility to drive is reestablished.**

(4) <u>No Record of Duty Status (Log Book)</u>

No record of duty status in possession when one is required. (395.8(a)) **Place driver Out-of-Service for eight (8) consecutive hours.**

(5) <u>No Previous 7 Days (see footnote 2)</u>

Failing to have in possession a record of duty status for the previous seven (7) consecutive days. (395.8(k)(2)) See Exception 395.13(b)(3) **Place driver Out-of-Service for eight (8) consecutive hours.**

(6) <u>False Record of Duty Status (Log Book)</u>

A record of duty status that does not accurately reflect the driver's actual activities and duty status (including time and location of each duty status change and the time spent in each duty status) in an apparent attempt to conceal a violation of an hours of service limitation within the current 60/70 hour rule period. (395.8(e)) **Place driver Out-of-Service for eight (8) consecutive hours.**

Footnotes for driver's record of duty status – US/Mexico

1. Sleeper Berth Operations (395.1(g))

   a. Drivers involved in sleeper berth operations (sleeper teams) placed Out-of-Service for "Hours" violations may be replaced by a co-driver, if the co-driver has hours available to drive.

   b. A solo driver using a sleeper berth to obtain rest who exceeds the hours of service limitations shall be placed Out-of-Service until said driver has hours available to drive.

2. Exception (395.13(b)(3)). A driver failing only to have possession of a record of duty status current on the day of examination and the prior day, but has completed records of duty status up to that time (previous 6 days) will be given the opportunity to make the duty status record current.

3. Drivers must comply with the hours of service rules of the country (Canada, United States or Mexico) that the driver is operating (driving) in.

4. Drivers operating in the State of Alaska (395.1(h)).

    a. Property-Carrying CMV-15 hours driving time and 20 hours on duty time following 10 hours off duty. 70 hours in 7 consecutive days, and 80 hours in 8 consecutive days.

    b. Passenger-Carrying CMV-15 hours driving time and 20 hours on duty time following 8 hours off duty. 70 hours in 7 consecutive days, and 80 hours in 8 consecutive days.

5. Exception (395.1(o)). A property-carrying driver is allowed one 16 hour on duty day within the current 7 or 8 consecutive day period provided the driver has returned to the driver's normal work reporting location and the carrier released the driver from duty at that location for the previous five duty tours the driver has worked.

6. 34 hour reset. (395.3(c)(1) or (2)). If within the 60 or 70 hour rule limits, any period of 7 or 8 consecutive days may end with the beginning of any off duty period of 34 or more consecutive hours.

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*9. <u>DRIVER'S RECORD OF DUTY STATUS - Canada</u>

a. <u>13 Hour Rule (See footnotes 1,3,4)</u>

Driving more than thirteen (13) hours following eight consecutive hours off duty. **Place driver Out-of-Service for eight (8) consecutive hours.**

b. <u>15 Hour Rule (See footnotes 1,3,4)</u>

Driving for any period after having been on duty fifteen (15) hours following eight (8) consecutive hours off duty. **Place driver Out-of-Service for eight (8) consecutive hours.**

c. <u>60/70/120 Hour Rules (See footnotes 1,3,4,5)</u>

Driving after being on duty more than 60 hours in 7 consecutive days, 70 hours in 8 consecutive days or 120 hours in 14 consecutive days. **Place driver Out-of-Service until such time as eligibility to drive is reestablished.**

d. No Log

No record of duty status in possession when one is required. **Place driver Out-of-Service for eight (8) consecutive hours.**

e. No Previous 7 days (See footnote 2)

Failing to have in possession a record of duty status for the previous seven consecutive days. **Place driver Out-of-Service for eight (8) consecutive hours.**

f. False Log

A record of duty status that does not accurately reflect the driver's actual activities and duty status (including time and location of each duty status change and the time spent in each duty status) in an apparent attempt to conceal a violation of an hours of service limitation within the current 60/70/120 hour rule period. **Place driver Out-of-Service for eight (8) consecutive hours.**

Footnotes for driver's record of duty status – Canada

1. Sleeper Berth Operations

    a. Drivers involved in sleeper berth operations (sleeper teams) placed Out-of-Service for "Hours" violations may be replaced by a co-driver, if the co-driver has hours available to drive.

    b. A solo driver using a sleeper berth to obtain rest who exceeds the hours of service limitations shall be placed Out-of-Service until said driver has hours available to drive.

2. A driver failing only to have possession of a record of duty status current on the day of examination and the prior day, but has completed records of duty status up to that time (previous 6 days) will be given the opportunity to make the duty status record current.

3. Drivers must comply with the hours of service rules of the country (Canada, United States or Mexico) that the driver is operating (driving) in.

4. Drivers operating north of the 60th parallel 15 hours driving time, 20 hours on-duty time, 70 hours in 7 consecutive days, and 80 hours in 8 consecutive days.

5. When applying the 120 hours in 14 consecutive day period, drivers must take 24 consecutive hours off-duty prior to accumulating 75 hours on-duty.

Part II

NORTH AMERICAN STANDARD VEHICLE OUT-OF-SERVICE CRITERIA

POLICY STATEMENT

The purpose of this part is to identify critical vehicle inspection items and provide criteria for placing vehicles Out-of-Service subsequent to a safety inspection.

Except where state, provincial, or federal laws preclude enforcement of a named item, motor carrier safety enforcement personnel and their jurisdictions shall comply with these vehicle Out-of-Service violation standards.

NOTE: Decal Qualification: Each vehicle (bus, truck, truck tractor, semi-trailer, trailer, etc.) must "pass" inspection to qualify for a decal. "Pass Inspection" means that during a Level I or Level V inspection no regulatory violations/defects are found of the following critical inspection items: brake systems; coupling devices; exhaust systems; frame; fuel systems; lighting devices (turn signals, brake lamps, tail lamps and head lamps); safe loading; steering mechanism; suspension; tires; van and open-top trailer bodies; wheels and rims; windshield wipers; and emergency exits for buses. For the purpose of decal issuance, if no regulatory violations are detected during a Level I or Level V inspection due to a hidden part, which includes the vehicle inspection items listed above, a decal shall be applied.

The decal criteria applies only to the condition of the vehicle, not the driver. It is possible for a driver to be Out-of-Service and still have vehicle(s) qualify for a decal. If each vehicle, whether used singly or in a combination, passes inspection, a current CVSA decal shall be affixed and no other CVSA decals shall be visible.

OUT-OF-SERVICE: Authorized personnel shall declare and mark "Out-of-Service" any motor vehicle which by reason of its mechanical condition or loading would be likely to cause an accident or breakdown. An "Out-of-Service Vehicle" sticker shall be used to mark vehicles "Out-of-Service." No motor carrier shall require nor shall any person operate any commercial motor vehicle declared and marked "Out-of-Service" until all repairs required by the "Out-of-Service notice" have been satisfactorily completed.

No person shall remove the "Out-of-Service Vehicle" sticker from any motor vehicle prior to completion of all repairs required by the "Out-of-Service Notice."

Violations, other than Out-of-Service conditions, detected during the inspection process will not preclude the completion of the current trip or dispatch. However, such violations must be corrected or repaired prior to redispatch.

These criteria are neither suited nor intended to serve as vehicle maintenance or performance standards.

FMCSR code references in the Out-of-Service Criteria are simply recommendations to help inspectors find an appropriate citation. Other codes may be more suitable for a specific condition.

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1. BRAKE SYSTEM

a. Defective Brakes

The number of defective brakes is equal to or greater than 20 percent of the service brakes on the vehicle or combination. A defective brake includes any brake that meets one of the following criteria.

NOTE: Steering axle brakes under 1.b. are to be included in the 20 percent criterion.

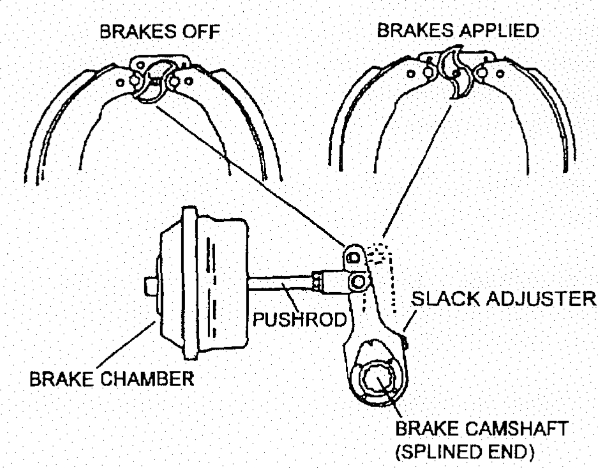
(1) Absence of effective braking action upon application of the service brakes (such as brake linings failing to move or contact braking surface upon application). (393.48(a))

(2) Missing or broken mechanical components including: shoes; linings; pads; springs; anchor pins; spiders; cam rollers; pushrods, and air chamber mounting bolts. (393.48(a))

(3) Loose brake components including air chambers, spiders, and cam shaft support brackets. (393.48(a))

(4) Audible air leak at brake chamber. (Example: ruptured diaphragm, loose chamber clamp, etc.)

NOTE: Also check under 1.h. - Air Loss Rate. (396.3(a)(1))



(5) Brake adjustment limits. Bring reservoir pressure between 90 and 100 psi (620-690 KPA), turn engine off and then fully apply the brakes.

(a) One brake at 1/4 inch (6mm) or more beyond the adjustment limit. (Example: Type 30 clamp type brake chamber pushrod measured at 2-1/4 inches (57mm) would be one defective brake.) (396.3(a)(1))

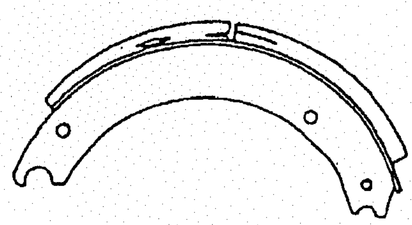
(b) Two brakes less than 1/4 inch (6mm) beyond the adjustment limit also equal one defective brake. (Example: Type 30 clamp type brake chamber pushrods measure - Two at 2-1/8 inches (54mm). This example would equal one defective brake. (396.3(a)(1))

(c) Any wedge brake where the combined brake lining movement of both top and bottom shoes exceeds 1/8 inch (3mm). (396.3(a)(1))

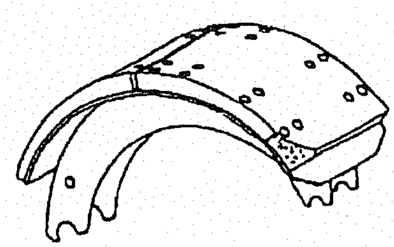
(6) Brake linings or pads. (Except on power unit steering axles.)

(a) Cracked, loose, or missing lining.

i. Lining cracks or voids of 1/16" (1.6mm) in width observable on the edge of the lining.
ii. Portions of a lining segment missing such that a fastening device (rivet or bolt) is exposed when viewing the lining from the edge.
iii. Cracks that exceed 1-1/2" (38mm) in length.
iv. Loose lining segments. (Approximately 1/16" (1.6mm) or more movement.)
v. Complete lining segment missing. (393.47)



Out-of-Service
Cracks or voids that exceed 1/16" in width.
Cracks that exceed 1 ½ " in length.



Out-of-Service
Portion of lining missing that exposes a fastening device.

COMMERCIAL VEHICLE SAFETY ALLIANCE
NORTH AMERICAN STANDARD OUT-OF-SERVICE CRITERIA
REFERENCE CHARTS

Reference: Paragraph 1.a. of Part II of the Out-of-Service Criteria

Brake Adjustment: Shall not exceed those specifications contained hereunder relating to "Brake Adjustment Limit". (Dimensions are in inches.)

CLAMP TYPE BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
6	4-1/2 (114mm)	1-1/4 (32mm)
9	5-1/4 (133mm)	1-3/8 (35mm)
12	5-11/16 (145mm)	1-3/8 (35mm)
16	6-3/8 (162mm)	1-3/4 (45mm)
20	6-25/32 (172mm)	1-3/4 (45mm)
24	7-7/32 (184mm)	1-3/4 (45mm)
30	8-3/32 (206mm)	2 (51mm)
36	9 (229mm)	2-1/4 (57mm)

NOTE: A brake found at the adjustment limit is not a violation.

'LONG STROKE' CLAMP TYPE BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
12	5-11/16 (14.5cm)	1-3/4 (4.5cm)
16	6-3/8 (162mm)	2.0 (51mm)
20	6-25/32 (172mm)	2.0 (51mm)
24	7-7/32 (184mm)	2.0 (51mm)
24*	7-7/32 (184mm)	2.5 (64mm)
30	8-3/32 (206mm)	2.5 (64mm)

* For 3" maximum stroke type 24 chambers

NOTE: A brake found at the adjustment limit is not a violation.

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BOLT TYPE BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
A	6-15/16 (176mm)	1-3/8 (35mm)
B	9-3/16 (234mm)	1-3/4 (45mm)
C	8-1/16 (205mm)	1-3/4 (45mm)
D	5-1/4 (133mm)	1-1/4 (32mm)
E	6-3/16 (157mm)	1-3/8 (35mm)
F	11 (279mm)	2-1/4 (57mm)
G	9-7/8 (251mm)	2 (51mm)

NOTE: A brake found at the adjustment limit is not a violation.

ROTOCHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
9	4-9/32 (109mm)	1-1/2 (38mm)
12	4-13/16 (122mm)	1-1/2 (38mm)
16	5-13/32 (138mm)	2 (51mm)
20	5-15/16 (151mm)	2 (51mm)
24	6-13/32 (163mm)	2 (51mm)
30	7-1/16 (180mm)	2-1/4 (57mm)
36	7-5/8 (194mm)	2-3/4 (70mm)
50	8-7/8 (226mm)	3 (76mm)

NOTE: A brake found at the adjustment limit is not a violation.

DD-3 BRAKE CHAMBER DATA

TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
30	8-1/8 (206mm)	2-1/4 (57mm)

NOTE: This chamber has three air lines and is found on motorcoaches.
NOTE: A brake found at the adjustment limit is not a violation.

WEDGE BRAKE DATA

The combined movement of both brake shoe lining scribe marks shall not exceed 1/8 inch (3.18mm).

(b) Evidence of oil seepage into or out of the brake lining/drum interface area. This must include wet contamination of the lining edge accompanied by evidence that further contamination will occur - such as oil running from the drum or a bearing seal.

NOTE: Grease on the lining edge, back of shoe, or drum edge and oil stains with no evidence of fresh oil leakage are not conditions for Out-of-Service. (393.47)

(c) Air Brakes: Lining with a thickness less than 1/4 inch (6mm) or to wear indicator if lining is so marked, measured at the shoe center for drum brakes or less than 1/8 inch (3mm) for disc brakes. (393.47)

(d) Hydraulic & electric brakes: Lining with a thickness 1/16 inch (1.6mm) or less at the shoe center for disc or drum brakes. (393.47)

(7) Missing brake on any axle required to have brakes. (393.42)

b. <u>Steering Axle Brakes</u>

In addition to being included in the 20 percent criterion, the following criteria places a vehicle in an Out-of-Service condition:

(1) Any inoperative brake on either wheel of any steering axle of any vehicle equipped with steering axle brakes, including the dolly and front axle of a full trailer. This includes tractors required to have steering axle brakes. (393.48(a))

(2) Mismatch across any power unit steering axle of:

(a) Air chamber sizes. (396.3(a)(1))

***NOTE:** Mismatched air chamber sizes includes long stroke brake chamber versus regular stroke brake chamber.

(b) Slack adjuster length. (396.3(a)(1))

(3) Brake linings or pads on the steering axle of any power unit:

(a) Cracked, loose, or missing lining.

i. Lining cracks or voids of 1/16” (1.6mm) in width observable on the edge of the lining.

ii. Portions of a lining segment missing such that a fastening device (rivet or bolt) is exposed when viewing the lining from the edge.
iii. Cracks that exceed 1-1/2" (38mm) in length.
iv. Loose lining segments (Approximately 1/16" (1.6mm) or more movement).
v. Complete lining segment missing. (393.47)

(b) Evidence of oil seepage into or out of the brake lining/drum interface area. This must include wet contamination of that lining edge accompanied by evidence further contamination will occur - such as oil running from the drum or bearing seal.

NOTE: Grease on the lining edge, back of shoe, or drum edge and oil stains with no evidence of fresh oil leakage are not conditions for Out-of-Service. (393.47)

(c) Lining with a thickness less than 3/16 inch (5mm)for a shoe with a continuous strip of lining or 1/4 inch (6mm) for a shoe with two pads for drum brakes or to wear indicator if lining is so marked, or less than 1/8 inch (3mm) for air disc brakes, and 1/16 inch (1.6mm) or less for hydraulic, disc, drum and electric brakes. (393.47)

c. Parking Brakes

(1) Inoperable breakaway braking system on trailer(s).

NOTE: No trailer brake application upon actuation of the parking brake control indicates an inoperable breakaway braking system. (See item "i", page 17) (393.43(d))

(2) Any non-manufactured holes or cracks in the spring brake housing section of a parking brake. (396.3(a)(1))

d. Brake Drums or Rotors (Discs)

(1) Drums with any external crack or cracks that open upon brake application.

NOTE: Do not confuse short hairline heat check cracks with flexural cracks. (396.3(a)(1))

(2) Any portion of the drum or rotor (discs) missing or in danger of falling away. (396.3(a)(1))

e. Brake Hose

(1) Hose with any damage extending through the outer reinforcement ply. (Rubber impregnated fabric cover is not a reinforcement ply) (Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube. Exposure of second color is Out-of-Service) (396.3(a)(1))

(2) Bulge/swelling when air pressure is applied. (396.3(a)(1))

(3) Hose with audible leak at other than a proper connection. (396.3(a)(1))

(4) Two hoses improperly joined such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube. (393.46)

(5) Air hose cracked, broken, or crimped in such a manner as to restrict air flow. (393.45(a)(4))

f. Brake Tubing

(1) Tubing with an audible leak at other than a proper connection. (396.3(a)(1))

*(2) Tubing cracked, damaged by heat, broken, crimped or improperly spliced/repaired. (396.46(f))

g. Low Pressure Warning Device

Low pressure warning device missing, inoperative, or does not operate at 55 psi (379KPA) and below, or 1/2 of the governor cut-out pressure, whichever is less.

NOTE: If either an audible or visual warning device is working as required, vehicle should not be placed Out-of-Service. (393.51)

h. Air Loss Rate

If an air leak is discovered and the reservoir pressure is not maintained when:
(1) Governor is cut-in;
(2) Reservoir pressure is between 80 & 90 psi (551-620 KPA);
(3) Engine is at idle, and
(4) Service brakes are fully applied. (396.3(a)(1)

*i. Tractor-Protection System

Inoperable or missing tractor-protection system components including a tractor-protection valve and/or trailer supply valve. (393.43)
See item "c(1)", page 15.

j. Air Reservoir

Air reservoir security; separated from its original attachment points. (393.50)

k. Air Compressor

(Normally to be inspected when readily visible or when conditions indicate compressor problems.)

(1) Loose compressor mounting bolts. (396.3(a)(1))

(2) Cracked, broken, or loose pulley. (396.3(a)(1))

(3) Cracked or broken mounting brackets, braces, or adapters. (396.3(a)(1))

l. Electric Brakes

(1) Absence of braking action on 20 percent or more of the braked wheels of a vehicle or combination of vehicles. (393.48(a))

(2) Missing or inoperable breakaway braking device. (393.43(d))

m. Hydraulic Brakes

Including: Power Assist over Hydraulic and Engine Driven Hydraulic Booster)

(1) No pedal reserve with engine running. (396.3(a)(1))

(2) Master cylinder less than 1/4 full.

NOTE: Normally to be inspected when readily visible or problems are apparent. (396.3(a)(1))

(3) Power assist unit fails to operate. (396.3(a)(1))

(4) Seeping or swelling brake hose(s) under application of pressure. (396.3(a)(1))

(5) Missing or inoperable breakaway braking device. (393.43)

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(6) Hydraulic hose(s) abraded (chafed) through outer cover-to-fabric layer. (393.45)

(7) Fluid lines or connections restricted, crimped, cracked, or broken. (396.3(a)(1))

(8) Any visually observed leaking hydraulic fluid in the brake system upon full application. (396.3(a)(1))

(9) Hydraulic System: Brake failure light/low fluid warning light on and/or inoperative. (393.51)

n. <u>Vacuum System</u>

(1) Insufficient vacuum reserve to permit one full brake application after engine is shut off. (393.50)

(2) Vacuum hose(s) or line(s) restricted, abraded (chafed) through outer cover-to-cord ply, crimped, cracked, broken, or has collapse of vacuum hose(s) when vacuum is applied. (396.3(a)(1))

2. <u>COUPLING DEVICES</u> (WHEN IN USE)

a. <u>Fifth Wheels:</u> (Lower Coupler Assembly)

(1) Mounting to frame

(a) More than 20 percent of fasteners on either side missing or ineffective. (393.70)

(b) Any movement between mounting components. (393.70)

(c) Any mounting angle iron cracked or broken.

SPECIAL NOTE: Any repair weld cracking, well defined (especially open) cracks in stress or load-bearing areas, cracks through 20 percent or more original welds or parent metal. (393.70)

(2) Mounting plates & pivot brackets

(a) More than 20 percent of fasteners on either side missing or ineffective. (393.70)

(b) Any welds or parent metal cracked.

SPECIAL NOTE: Any repair weld cracking, well defined (especially open) cracks in stress or load-bearing areas, cracks through 20 percent or more original welds or parent metal. (393.70)

(c) More than 3/8 inch (9.5mm) horizontal movement between pivot bracket pin and bracket. (393.70)

(d) Pivot bracket pin missing or not secured. (393.70)

(3) Sliders

(a) More than 25 percent of latching fasteners, per side, ineffective. (393.70)

(b) Any fore or aft stop missing or not securely attached.

NOTE: A moveable fifth wheel that is secured with vertical pins does not need fore or aft stops. (393.70)

(c) Movement of more than 3/8 inch (9.5mm) between slider bracket and slider base. (393.70)

(4) Operating handle

Operating handle not in closed or locked position. (393.70)

(5) Fifth wheel plate

Cracks in fifth wheel plate. (393.70)

SPECIAL NOTE: Any repair weld cracking, well defined (especially open) cracks in stress or load-bearing areas, cracks through 20 percent or more original welds or parent metal.

EXCEPTIONS: (1) Cracks in fifth wheel approach ramps, and (2) casting shrinkage cracks in the ribs of the body of a cast fifth wheel.

(6) Locking mechanism

Locking mechanism parts missing, broken, or deformed to the extent that the kingpin is not securely held. (393.70)

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b. Upper Coupler Assembly: (Including kingpin)

(1) Horizontal movement between the upper and lower fifth wheel halves exceeds 1/2 inch (13mm). (393.70)

(2) Kingpin can be moved by hand in any direction.

NOTE: This item is to be used when uncoupled semitrailers are encountered, such as at a terminal inspection, and it is impossible to check item (1) above. Kingpins in coupled vehicles are to be inspected using item (1) above and items (3) and (4) below. Vehicles are not to be uncoupled. (393.70)

(3) Kingpin not properly engaged. (393.70)

(4) Any semitrailer with a bolted upper coupler having fewer effective bolts than shown in the following table. MINIMUM TOTAL QUANTITY OF BOLTS. (Total minimum quantity of bolts must be equally divided with 1/2 on each side of the coupler. (396.3(a))

BOLT SIZE

1/2 inch (13mm)	5/8 inch (16mm) or larger
10 - (5 each side)	8 - (4 each side)

NOTE: This BOLT SIZE table applies to trailers having a 68,000-lbs. maximum gross vehicle weight rating (GVWR). Such trailers are typically used in tractor-semitrailer combinations with a maximum gross combination weight rating (GCWR) of 80,000-lbs. It is based on Truck Trailer Manufacturers Association Technical Bulletin No. 110 (TB 110) "Upper Coupler Attachment Bolts for Trailers with Repositionable Upper Couplers (4/1/98)". Table 1 in TB 110 also has specifications covering trailers with an 85,000 lbs. and 105,000 lbs. GVWR.

(5) Any welds or parent metal cracked.

SPECIAL NOTE: Any repair weld cracking, well defined (especially open) cracks in stress or load-bearing areas, cracks through 20 percent or more original welds or parent metal. (393.70)

c. Pintle Hooks

Mounting and integrity

(1) Loose mounting, missing or ineffective fasteners, or insecure latch.

NOTE: A fastener is not considered missing if there is an empty hole in the device but no corresponding hole in the frame and vice versa (Trailer - 393.70(c), Driveaway - 393.71)).

(2) Cracks anywhere in the pintle hook assembly including mounting surface and frame cross member. (Trailer - 393.70(c), Driveaway - 393.71)

(3) Any welded repairs to the pintle hook assembly. (Trailer - 393.70(c), Driveaway - 393.71)

(4) Section reduction visible when coupled.

NOTE: No part of the horn should have any section reduced by more than 20 percent. If wear can be seen when the hook and eye are coupled it is possible that either this condition or that described below in "d(4)" exists. (Trailer - 393.70(c), Driveaway - 393.71)

d. Drawbar Eye

Mounting and integrity

(1) Any cracks in attachment welds or drawbar eye. (Trailer- 393.70(c), Driveaway - 393.71)

(2) Any missing or ineffective fasteners. (Trailer - 393.70(c), Driveaway - 393.71)

(3) Any welded repairs to the drawbar eye. (Trailer - 393.70(c), Driveaway - 393.71)

(4) Section reduction visible when coupled.

NOTE: No part of the eye should have any section reduced by more than 20 percent. If wear can be seen when the hook and eye are coupled, it is probable that either this condition or that described above in "c(4)" exists. (Trailer - 393.70(c), Driveaway - 393.71)

e. Drawbar/Tongue

(1) Slider (power/manual)

(a) Ineffective latching mechanism. (Trailer - 393.70(c), Driveaway - 393.71)

(b) Missing or ineffective stop. (Trailer - 393.70(c), Driveaway - 393.71)

(c) Movement of more than 1/4 inch (6mm) between the slider and housing. (Trailer - 393.70(c), Driveaway - 393.71)

(d) Any leaking air or hydraulic cylinders, hoses, or chambers (other than slight oil weeping normal with hydraulic seals). (Trailer - 393.70(c), Driveaway - 393.71)

(2) Integrity

(a) Any cracks. (Trailer - 393.70(c), Driveaway - 393.71)

(b) Movement of 1/4 inch (6mm) between sub frame and drawbar at point of attachment. (Trailer - 393.70(c), Driveaway - 393.71)

f. Safety Devices

(1) Missing. (393.70(c))

(2) Unattached or incapable of secure attachment. (393.70(c))

(3) Improper repairs to chains and hooks including welding, wire, small bolts, rope, and tape. (393.70(c))

g. Saddle Mounts (Method of Attachment)

(1) Any missing or ineffective fasteners. (393.71)

(2) Loose mountings. (393.71)

(3) Any cracks or breaks in a stress or load-bearing member. (393.71)

(4) Horizontal movement between upper and lower saddle mount halves exceeds 1/4 inch (6mm). (393.71)

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h. Full Trailer (Double Ring, Ball-Bearing Turntable)

(1) Mounting - Top and Bottom

(a) Top flange has less than 6 effective bolts. (393.70(c))

(b) Bottom flange has less than 6 effective bolts. (393.70(c))

(c) Twenty percent or more of original welds (or repaired original welds), or parent metal cracked. (393.70(c))

(2) Wear

(a) Upper flange half touching lower flange half. (393.70(c))

(b) Cracked flanges. (393.70(c))

3. EXHAUST SYSTEM

a. Any exhaust system, other than that of a diesel engine, leaking at a point forward of or directly below the driver/sleeper compartment and when the floor pan is in such condition as to permit entry of exhaust fumes. (393.83(e))

b. Any bus exhaust system leaking or discharging under the chassis more than 6 inches (152mm) forward of the rear most part of the bus when powered by a gasoline engine, or more than 15 inches (381mm) forward of the rear most part of the bus when powered by other than a gasoline or diesel engine. (393.83(d))

c. No part of the exhaust system of any motor vehicle shall be so located as to be likely to result in burning, charring, or damaging the electrical wiring, the fuel supply, or any combustible part of the motor vehicle. (393.83(a))

4. FRAME

a. Frame members

(1) Any cracked, loose, sagging, or broken frame siderail permitting shifting of the body onto moving parts or other condition indicating an imminent collapse of the frame. (Bus, truck, truck tractor - (393.201(a), Trailers - 396.3(a)(1))

(2) Any cracked, loose, or broken frame member adversely affecting support of functional components such as steering gear, fifth wheel, engine, transmission, body parts and suspension. (Bus, truck, truck tractor - 393.201(a), Trailers - 396.3(a)(1))

(3) One and one-half inches (38mm) or longer crack in frame siderail web which is directed toward bottom flange. (Bus, truck, truck tractor - 393.201(a), Trailers - 396.3(a)(1))

(4) Any crack extending from the frame siderail web around the radius and into the bottom flange. (Bus, truck, truck tractor - 393.201(a), Trailers - 396.3(a)(1))

(5) One inch (25mm) or longer crack in siderail bottom flange. (Bus, truck, truck tractor - 393.201(a), Trailers - 396.3(a)(1)

NOTE: Items (1) and (2) above, apply to all buses, including those having unitized (monocoque) construction. Items (3) and (4) apply only to buses having a body-on-chassis design, such as most school buses.

b. Tire and Wheel Clearance

Any condition, including loading, that causes the body or frame to be in contact with a tire or any part of the wheel assemblies, at the time of inspection. (396.3(a)(1))

c. Adjustable Axle

Adjustable axle assembly (sliding sub frame) with more than one-fourth of the locking pins missing or not engaged. (393.207(b))

5. FUEL SYSTEM

a. Liquid Fuels

(1) A fuel system with a dripping leak at any point (including refrigeration or heater fuel systems). (393.67)

(2) A fuel tank not securely attached to the vehicle.

NOTE: Some fuel tanks use spring or rubber bushings to permit movement. (393.65)

b. Gaseous Fuels

Compressed Natural Gas (CNG), Liquefied Petroleum Gas (LPG) and Liquefied Natural Gas (LNG)

OCCUPATIONAL SAFETY NOTE: Personnel must exercise extreme caution whenever checking a gaseous fuel system for leaks. Any possibility of creating sparks, static electricity, friction, etc. must be avoided, as they could cause a fire or explosion.

OCCUPATIONAL SAFETY NOTE: Vehicles with leaking gaseous fuel systems must be parked carefully. Gases escaping from CNG and LNG systems will rise. If the vehicle is parked inside a building or under a canopy, roof or similar cover, combustible gasses can collect beneath the ceiling. Escaping LPG falls and can form a "pool" of combustible gas near the ground and displaces air including oxygen. LPG and liquid LNG will flow into open drains. Combustible gases can explode when ignited by an open flame or spark.

(1) CNG or LPG

(a) Any fuel leakage from the CNG or LPG system detected by smell and verified by either a bubble test using non-ammonia, non-corrosive soap solution or a flammable gas detection meter.

(b) Any fuel leakage from the CNG or LPG system detected audibly and verified by either a bubble test using non-ammonia, non-corrosive soap solution or flammable gas detection meter.

NOTE: Verification is needed to ensure that the sound is not either internal to the fuel system (such as gas flowing in a pressure regulator, or pressure equalizing between manifolded tanks) or a leak in the air brake system.

(c) Any fuel leakage from the CNG or LPG system detected visibly (evidence such as ice buildup at fuel system connections and fittings) and verified by either a bubble test using non-ammonia, non-corrosive soap solution or a flammable gas detection meter.

NOTE: Some brief fuel leakage or decompression may occur during refueling, causing temporary frosting of CNG or LPG fuel system parts. If the vehicle has been refueled shortly before inspection, care must be taken to distinguish these temporary frosting occurrences from actual leaks.

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(2) LNG

OCCUPATIONAL SAFETY NOTE: LNG is a cryogenic material and presents a potential safety hazard due both to the extremely cold temperature of its liquid and the flammability of its vapor. Personnel inspecting such systems should exercise utmost caution including the wearing of proper eye protection, gloves and clothing.

NOTE: LNG liquid and vaporized gas is odorless and undetectable by the human sense of smell. Frost buildup is not necessarily evidence of leakage. Many components of LNG fuel systems are extremely cold and will exhibit an even coat of frost produced by moisture in the surrounding air condensing and freezing on them.

(a) A cloud of water vapor coming from any component of the fuel system.

NOTE: It is normal, particularly in humid conditions, for water vapor to collect around many portions of a LNG fuel system.

(b) Any leak detected by a methane detection meter.

(c) Dripping liquid that boils or vaporizes in the air.

6. HEADLAMPS, TAIL LAMPS, LAMPS ON PROJECTING LOADS, STOP LAMPS, AND TURN SIGNALS

a. When lights are required

(1) Headlamps - The single vehicle or towing vehicle does not have at least one head lamp operative on low beam. (393.24(b)), (393.17), (393.9-Inoperable)

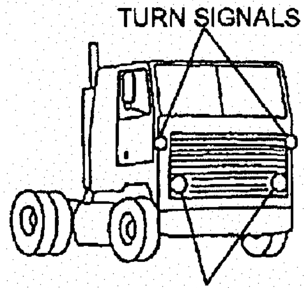
(2) Lamps on rear - Bus, truck, truck tractor, and towed vehicle (including driveaway/towaway operations) not having at least one steady burning tail lamp on the rear of the rear most vehicle visible from 500 feet (152m). (393.25(b), (393.9-Inoperable))

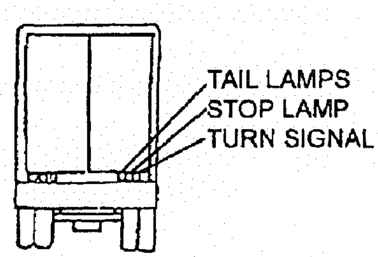
(3) Lamps on projecting loads - There is not at least one operative steady burning lamp on the rear of loads projecting more than four feet beyond the vehicle body, visible from 500 feet (152m) (393.11, 393.17, 393.9-Inoperable)

b. <u>At Anytime - Day or Night</u>

(1) Does not have at least one operative stop lamp on the rear of a single unit vehicle or the rear of the rear most vehicle of a combination of vehicles visible at 500 feet (152m) (393.25(f), 393.17 and 393.9-Inoperable)

(2) Does not have operative turn signals visible on each side of the rear of a single unit vehicle or the rear of the rear most vehicle of a combination of vehicles. (Truck tractors - unless the turn signals on the front are so constructed (double faced) and located to be visible to passing drivers, two turn signals on the rear of the cab, one at each side.) (393.9 - Inoperable), (393.11 - Missing)





*7. SAFE LOADING/TIE-DOWNS

a. Part(s) of a vehicle or condition of loading such that the spare tire or any part of the load, cargo or dunnage can fall onto the roadway. (392.9)

b. When the aggregate working load limit of the securement devices being used is less than ½ the weight of the cargo being secured. (393.106(d))

NOTE: Equivalent means of securement (e.g., vehicle structures, dunnage, dunnage bags, shoring bars, etc.) may be used to comply; not all cargo must be "tied down" with chains, webbing, wire rope, cordage, etc. (393.106(b))

c. No edge protection. (393.104(f)(5))

NOTE: Out-of-Service <u>only</u> when the required tie-down has evidence of damage resulting from unprotected contact with an article of cargo.

NOTE: See sections 7(h)(1) through 7(h)(5) for tie-down defect classification.

d. Articles of cargo that are likely to roll are not restrained by chocks, wedges, a cradle or other equivalent means to prevent rolling. (393.106(c)(1)) for all types of cargo including light-weight vehicles, 393.130(a) for heavy vehicles, equipment and machinery.)

e. Articles or cargo placed beside each other and secured by transverse tie-downs are not in direct contact with each other and are not prevented from shifting towards each other while in transit. (393.106(c)(2))

f. Articles or cargo not blocked or positioned to prevent movement in the forward direction by a headerboard, bulkhead, other cargo that is positioned to prevent movement, or other appropriate blocking devices, is not secured by at least:

  (1) One tie-down for articles 5 feet (1.5m) or less in length, and 1,100 pounds (500kg) or less in weight. (393.110(b)(1));

  (2) Two tie-downs if the article is:

    (a) 5 feet (1.5m) or less in length and more than 1,100 pounds (500kg) in weight (393.110(b)(2)(i)); or

    (b) Longer than 5 feet (1.5m) but less than or equal to 10 feet (3m) in length, irrespective of the weight. (393.110(b)(2)(ii))

  (3) Two tie-downs if the article is longer than 10 feet (3m) and one additional tie-down for every 10 feet (3m) of article length, or fraction thereof, beyond the first 10 feet (3m) of length. (393.110(b)(3))

g. Article(s) or cargo that is blocked, braced or immobilized to prevent movement in the forward direction by a headerboard, bulkhead, other articles which are adequately secured or by an appropriate blocking or immobilization method, is not secured by at least one tie-down for every 10 feet (3m) of article length, or fraction thereof. (393.110(c))

h. When any of the required type and number of tie-downs are defective or loose. (393.104(b) -- Defective, 393.104(f) -- Loose)

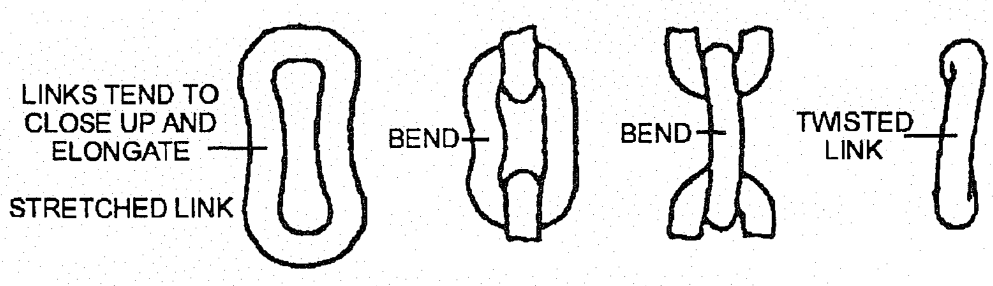
  (1) Chain Defects

    (a) Broken, cracked, twisted, bent, or stretched links. (393.104(b))

    (b) Containing nicks, gouges, abrasions, excessive wear, or knots. (393.104(b))

(c) Any weld(s) on chain, except the original chain weld in each link. (393.104(f)(2))

NOTE: Repairs. Links of the clevis variety, having a strength equal to or greater than the nominal chain are acceptable. (See also Tie-Down Guidelines.)



(2) Wire Rope Defects

(a) Kinks, bird caging, popped core, or knots in the working section of the wire rope. (393.104(b), 393.104(f)(1))

(b) Discoloration from excessive heat or electric arc in the eye or main body of the wire rope. (393.104(b))

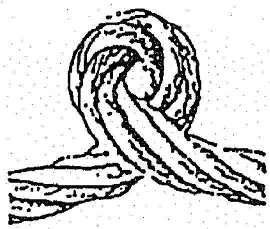
(c) Corrosion with pitting of the external or internal wires. (393.104(b))

(d) More than 11 broken wires in 6 diameters of length. For example: with 1/2 inch (13mm) wire rope, over 11 broken wires in (6 x 1/2) or 3 inches in length. (6 x 13 = 78mm) (393.104(b))

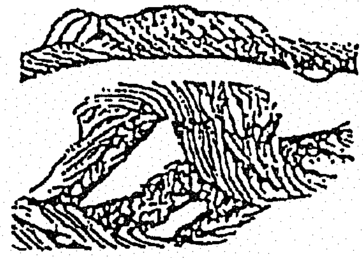
(e) More than three broken wires in any one strand. (393.104(b))

(f) More than two broken wires at the end connection or fitting. (393.104(b))

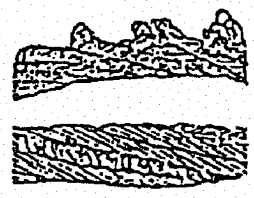
NOTE: Repairs. Wire rope used in tie-down assemblies shall not be repaired or spliced. (Back splices and eye splices are acceptable.)



ROPE KINK



EXAMPLES OF
BIRD CAGES



EXAMPLES OF
CORE PROTUSION

(3) Cordage (fiber rope) Defects

(a) Burned or melted fibers except on heat-sealed ends. (393.104(b))

(b) *Evidence of excessive wear in exterior or interior fibers. (393.104(b))

(c) *Any evidence of loss of strength, such as a marked reduction in diameter. (393.104(b))

(d) Ineffective knots formed for the purpose of connecting or repairing binders. (393.104(f)(1))

***NOTE:** Effective diameter of cordage reduced by 20 percent is excessive. Repairs: Cordage used in tie-down assemblies shall not be repaired. (Separate lengths of cordage properly spliced together are not considered repairs.)

(4) Synthetic Webbing Defects

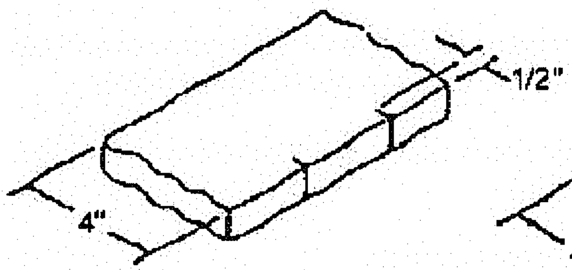
(a) The tie-down contains cut(s), burn(s), and/or hole(s) through the webbing which total more than that shown in the Defect Classification Table. (393.104(b))

(b) The tie-down contains separation of its load carrying stitch pattern(s) in excess of 1/4 of the total stitch area. (393.104(b))

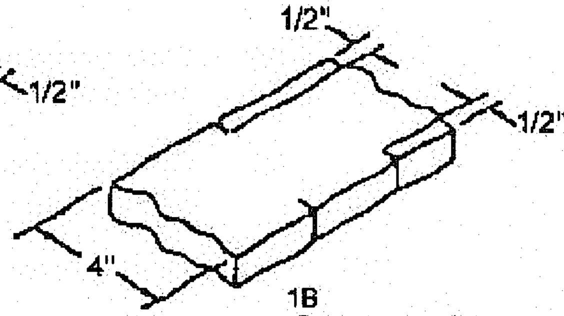
(c) The tie-down contains any fitting, tensioning device, or hardware which is broken, obviously sprung, bent, twisted, or contains visible cracks or significant nicks or gouges. (393.104(b))

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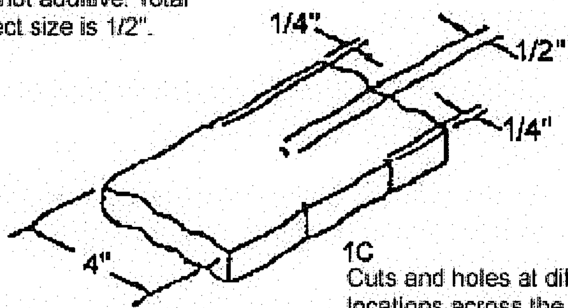
(d) The tie-down contains knotted webbing splices, repairs, or any other apparent defects (i.e. crushed areas, damaged loop ends, severe abrasions, etc.). (393.104(b), 393.104(f)(2)



1A
Cuts on same edge are not additive. Total defect size is 1/2".



1B
Cuts on opposite edges are additive. Total defect size is 1".



1C
Cuts and holes at different locations across the width are additive. Total defect size is 1".

DEFECT CLASSIFICATION TABLE
Total Defect Size

Web Size Inches (mm)	Out-of-Service Range Inches (mm)
4 (100)	Larger than 3/4 (19)
3 (75)	Larger than 5/8 (16)
2 (50)	Larger than 3/8 (10)
1.75 (45)	Larger than 3/8 (10)

All cut(s), burn(s), and/or hole(s) through the webbing are additive across the width of the strap face for its entire effective length. But only one defect is additive for any specific width.

NOTE: Repairs. Webbing used in tie-down assemblies shall not be repaired or spliced.

(5) Steel Strapping

(a) Steel strappings over one inch (25mm) in width not having at least two pair of crimps in each seal. (393.104(e))

(b) Steel strappings arranged in an end-over-end lap joint not sealed with at least two seals. (393.104(e))

(c) Obviously damaged or distorted steel strappings. (393.104(b))

(6) Fitting or Attachment Defects

(a) Obvious reduction of section through wear or corrosion. (393.104(b))

(b) Obviously distorted or stretched load binders and fittings. (393.104(b))

(c) Hooks opened in the throat beyond the original parallel throat opening. (393.104(b))

(d) Obvious twisting out of the plane of the fitting. (393.104(b))

(e) Welding or discoloration from excessive heat. (393.104(b))

NOTE: Some winches are designed to be welded to the truck bed.

(f) Any visible cracks. (393.104(b))

(g) Any slippage detectable at a wire rope "cable clamp". (393.104(f)(2))

NOTE: End fittings may be replaced with clevis type.

(7) Anchor Point Defects

(a) Broken or cracked side or pocket rails, supports, or welds. (393.104(c))

(b) Rails bent or distorted where hooks or fittings attach. (393.104(c))

(c) Floor rings nicked, gouged, worn, twisted, bent, stretched, or with broken welds. (393.104(c))

i. Logs not secured per the specific securement requirements for this commodity type. (393.116)

j. Dressed lumber or similar building products not secured per the specific securement requirements for this commodity type. (393.118)

k. Metal coils not secured per the specific securement requirements for this commodity type. (393.120)

l. Paper rolls not secured per the specific securement requirements for this commodity type. (393.122)

m. Concrete pipe not secured per the specific securement requirements for this commodity type. (393.124)

n. Intermodal containers not secured per the specific securement requirements for this commodity type. (393.126)

o. Automobiles, light trucks and vans not secured per the specific securement requirements for this commodity type. (393.128)

p. Heavy vehicles, equipment and machinery not secured per the specific securement requirements for this commodity type. (393.130)

q. Flattened or crushed vehicles not secured per the specific securement requirements for this commodity type. (393.132)

r. Roll-On/Roll-Off or Hook Lift Containers not secured per the specific securement requirements for this commodity type. (393.134)

s. Large boulders not secured per the specific securement requirements for this commodity type. (393.136)

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8. STEERING MECHANISM

a. Steering Wheel Free Play

(See Chart: When any of these values - inch movement or degrees - are met or exceeded, vehicle shall be placed Out-of-Service.) (393.209(b)) For power steering systems, engine must be running.

Steering Wheel Diameter	Manual System Movement 30º	Power System Movement*45º
16" (41cm)	4-1/2" (11.5cm)(or more)	6-3/4" (17cm)(or more)
18" (46cm)	4-3/4" (12cm)(or more)	7-1/8" (18cm)(or more)
19" (48cm)	5" (13cm)(or more)	7-1/2" (19cm)(or more)
20" (51cm)	5-1/4" (13cm)(or more)	7-7/8" (20cm)(or more)
21" (53cm)	5-1/2" (14cm)(or more)	8-1/4" (21cm)(or more)
22" (56cm)	5-3/4" (15cm)(or more)	8-5/8" (22cm)(or more)

For power systems, if steering wheel movement exceeds 45 degrees before steering axle tires move, proceed as follows: Rock steering wheel left to right between points of power steering valve resistance. If that motion exceeds 30 degrees (or the inch movement values shown for manual steering) vehicle shall be placed Out-of-Service. This test is to differentiate between excessive lash and power systems designed to avoid providing steering assistance when the steering wheel is turned while the truck is motionless (not moving forward or backward).

b. Steering Column

(1) Any absence or looseness of U-bolt(s) or positioning part(s). (393.209(c))

(2) Obviously repair-welded universal joint(s). (393.209(d))

(3) Steering wheel not properly secured. (393.209(a))

c. Front Axle Beam and All Steering Components other than Steering Column (Including Hub)

(1) Any crack(s). (396.3(a)(1))

(2) Any obvious welded repair(s). (396.3(a)(1))

d. Steering Gear Box

(1) Any mounting bolt(s) loose or missing. (393.209(d))

(2) Any crack(s) in gear box or mounting brackets. (393.209(d))

(3) Any obvious welded repair(s). (396.3(a)(1))

(4) Any looseness of the yoke-coupling to the steering gear input shaft. (393.209(d))

e. Pitman Arm

(1) Any looseness of the pitman arm on the steering gear output shaft. (393.209(d))

(2) Any obvious welded repair(s). (396.3(a)(1))

f. Power Steering

Auxiliary power assist cylinder loose. (393.209(e))

g. Ball and Socket Joints

(1) Any movement under steering load of a stud nut. (396.3(a)(1)

(2) Any motion, other than rotational, between any linkage member and its attachment point of more than 1/8 inch (3mm) measured with hand pressure only. (396.3(a)(1))

(3) Any obvious welded repair(s). (396.3(a)(1))

h. Tie Rods and Drag Links

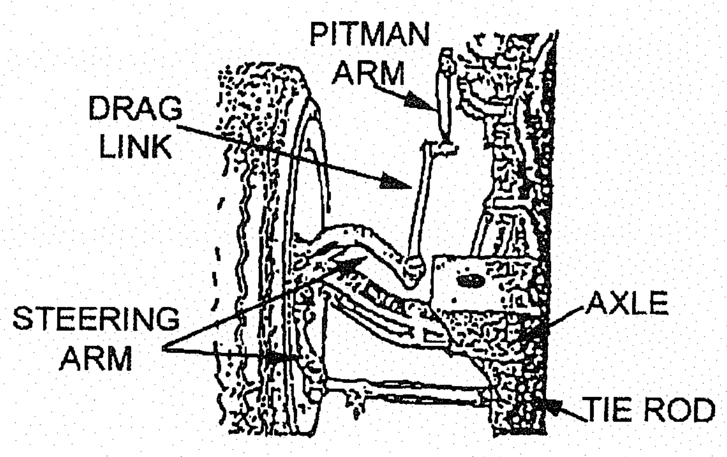
(1) Loose clamp(s) or clamp bolt(s) on tie rods or drag links. (396.3(a)(1))

(2) Any looseness in any threaded joint. (396.3(a)(1)

i. Nuts

Loose or missing on tie rods, pitman arm, drag link, steering arm, or tie rod arm. (396.3(a)(1))

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j. Steering System

Any modification or other condition that interferes with free movement of any steering component. (393.209(d))

k. C-Dolly

*(1) Missing or inoperable steering locks. (396.3(a))

(2) Steering not centered in the "zero" locked position. (396.3(a))

9. SUSPENSION

a. Axle Parts/Members

(1) Any U-bolt(s) or other spring to axle clamp bolt(s) cracked, broken, loose, or missing. (393.207(a))

(2) Any spring hanger(s), or other axle positioning part(s) cracked, broken, loose, or missing resulting in shifting of an axle from its normal position. (393.207(a))

NOTE: After a turn, lateral axle displacement is normal with some suspensions including composite springs mounted on steering axles.

b. Spring Assembly

(1) One-fourth or more of the leaves in any spring assembly broken. (393.207(c))

(2) Any leaf or portion of any leaf in any spring assembly is missing or separated. (393.207(c))

(3) Any broken main leaf in a leaf spring. (393.207(c))

NOTES:

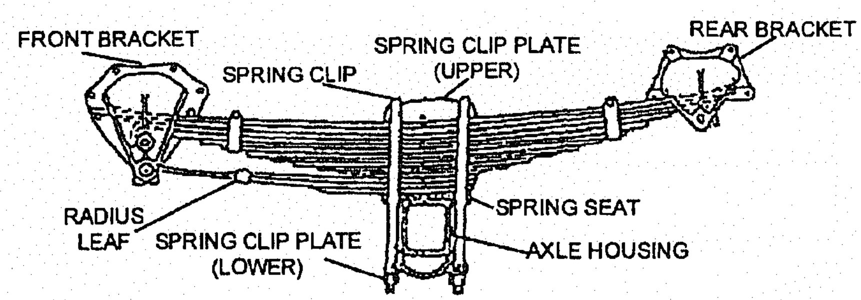
1. Any leaf of leaf spring assembly is a main leaf if it extends, at both ends, to or beyond:

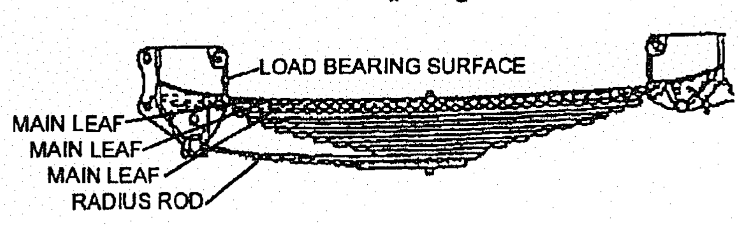
    a. The load bearing surface of a spring hanger or equalizer.

    b. The spring end cap or insulator box mounted on the axle.

    c. A spring eye, further: Any leaf or a helper spring assembly is a helper main leaf if it extends, at both ends, to or beyond the load bearing surface of its contact pad, hanger, or equalizer.

2. The radius rod leaf, in springs having such a leaf, has the same function as the torque or radius components referenced in item 9.d. "Torque Radius, or Tracking Components" and should be treated as such a component for purposes of Out-of-Service. (393.207(c))





(4) Coil spring broken. (393.207(d))

(5) Rubber spring missing. (393.207(a))

(6) One or more leaves displaced in a manner that could result in contact with a tire, rim, brake drum, or frame. (393.207(c))

(7) Broken torsion bar spring in torsion bar suspension. (393.207(e))

(8) Deflated air suspension (i.e., system failure, leak, etc.) (393.207(f)).

c. Composite Springs

(1) Intersecting cracks of any length. (See Illustrations Pages 38 & 39.) (393.207(c)).

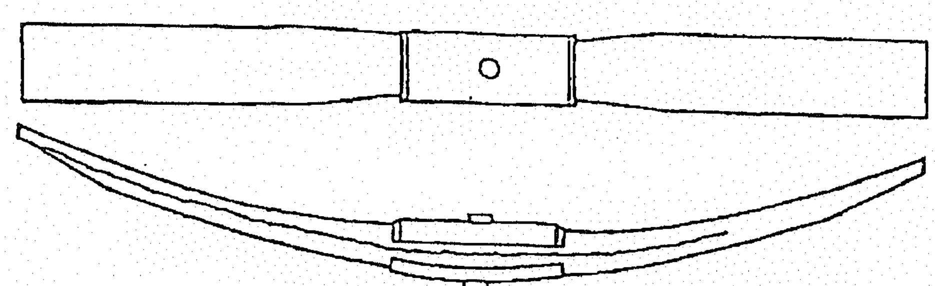
(2) A crack that extends beyond 3/4 the length of the spring. (See Illustrations Pages 38 & 39.) (393.207(c))

NOTE: A crack is a separation in any axis which passes completely through the spring.

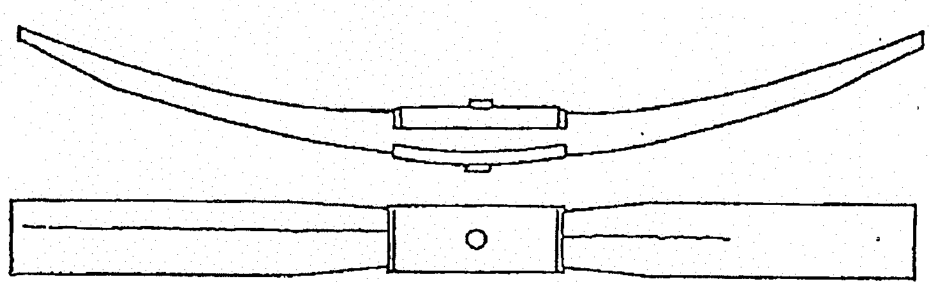
COMPOSITE SPRING

Out-of-Service Conditions

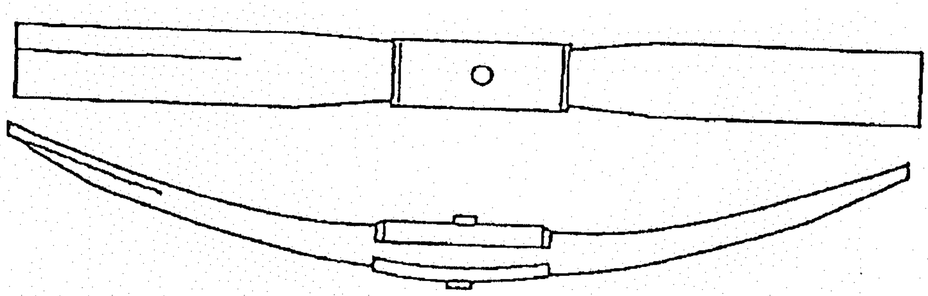
a) Side to side crack extending beyond 3/4 of the length of the spring. (A crack that extends beyond 3/4 the length of the spring.)



b) Top to bottom crack extending beyond 3/4 of the length of the spring. (A crack that extends beyond 3/4 the length of the spring.)



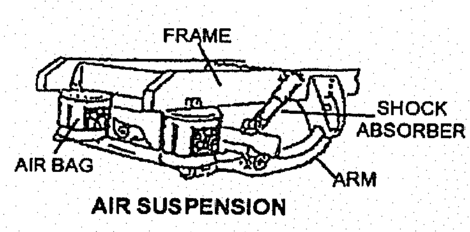
c) Intersecting cracks of any length.

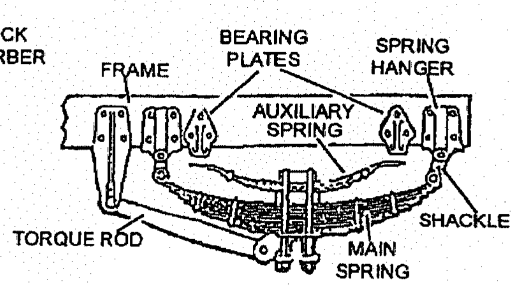


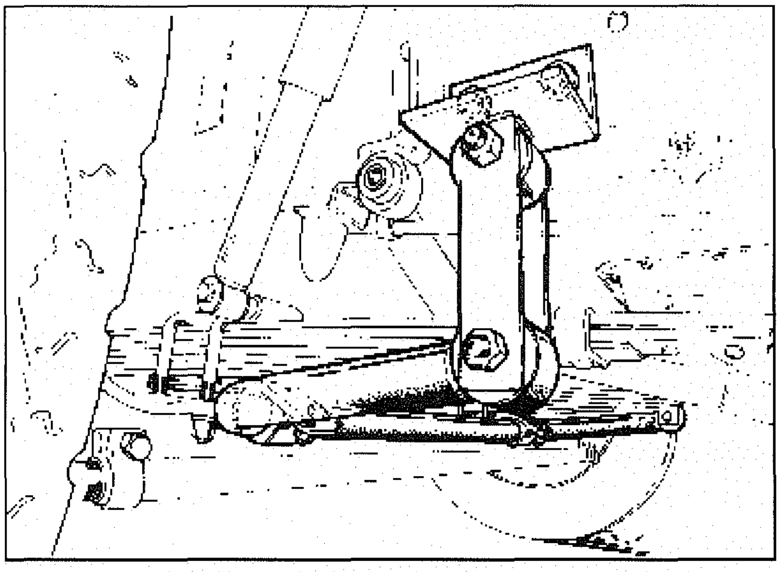
NOTE: A crack is a separation in any axis which passes completely through the spring.

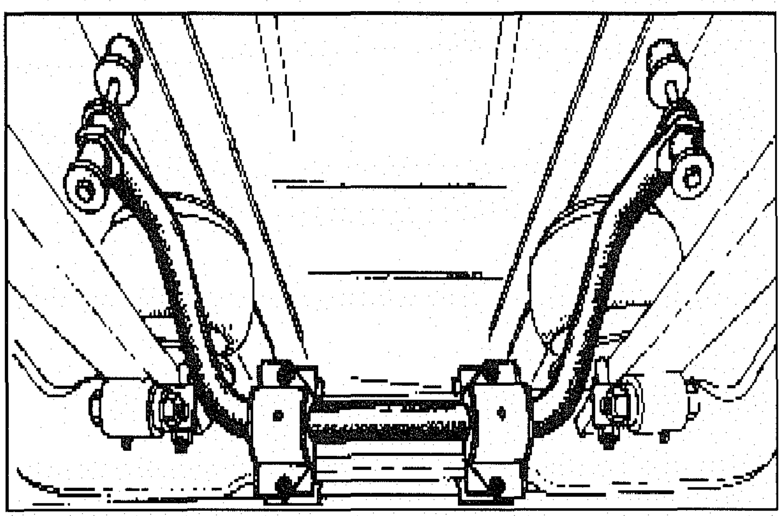
*d. <u>Torque, Radius, Tracking or Sway Bar Components</u>

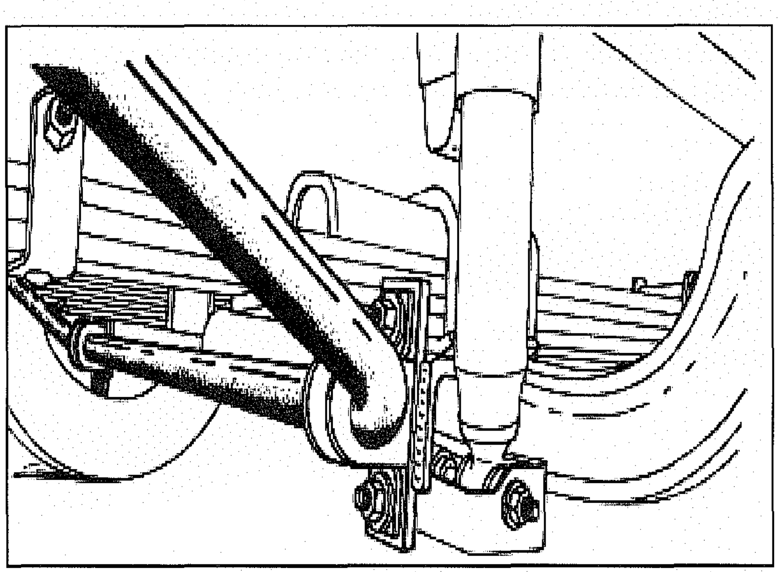
Any part of a torque, radius, or tracking component assembly or any part used for attaching same to the vehicle frame or axle that is cracked, loose, broken, or missing (including spring leaves used as a radius or torque rod, missing bushings but not loose bushings in torque, track rods or sway bars.) (393.207(a))











10. TIRES

a. Any Tire on Any Steering Axle of a Power Unit

(1) With less than 2/32 inch (1.6mm) tread when measured in any two adjacent major tread grooves at any location on the tire. (393.75(b))

(2) When any part of the breaker strip or casing ply is showing in the tread. (393.75(a))

(3) When sidewall is cut, worn, or damaged to the extent that the ply cord is exposed. (393.75(a))

(4) Labeled "Not For Highway Use" or carrying other markings which would exclude use on steering axles. (396.3(a)(1))

(5) Visually observable bump, bulge, or knot apparently related to tread or sidewall separation. (396.3(a)(1))

EXCEPTION: A bulge due to a section repair is allowed not to exceed 3/8 inch (1cm) in height. This bulge may sometimes be identified by a blue triangular label in the immediate vicinity.

(6) Tire is flat or has noticeable (e.g., can be heard or felt) leak. (393.75(a)(3))

(7) So mounted or inflated that it comes in contact with any part of the vehicle. (396.3(a)(1))

(8) Steering Axle: Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure.

EXCEPTION: Does not apply to vehicles being operated under the special permit exclusion found in Federal Motor Carrier Safety Regulation. (393.75(f)(1) and (2))

*(9) Passenger Carrying Vehicle: Regrooved, recapped, or retreaded tires on front steering axles. (393.75(d))

*b. All Tires Other Than Those Found On The Steering Axle of a Powered Vehicle

NOTE: On dual wheels, both tires must meet one or more of the Out-of-Service conditions listed in items b. (2), b. (3), b. (7).

(1) Tire is flat or has noticeable (e.g., can be heard or felt) leak. (393.75(a)(3))

(2) Bias Ply Tire: When more than one ply is exposed in the tread area or sidewall or when the exposed area of the top ply exceeds 2 square inches (13 sq. cm). (393.75(a)(1))

(3) Radial Ply Tire: When two or more plies are exposed in the tread area or damaged cords are evident in the sidewall or when the exposed area exceeds 2 square inches (13 sq. cm) in the sidewall. (393.75(a)(1))

(4) Any tire with visually observable bump or knot apparently related to tread or sidewall separation. (396.3(a)(1))

EXCEPTION: A bulge due to a section repair is allowed not to exceed 3/8" (1cm) in height. The bulge may sometimes be identified by a blue triangular label in the immediate vicinity.

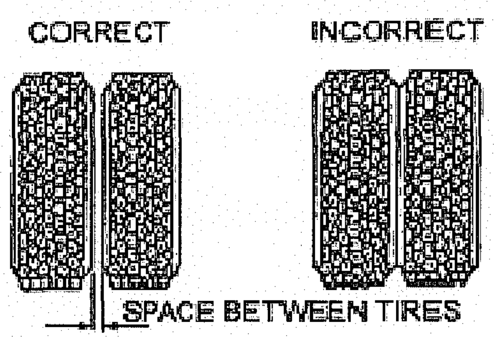
(5) So mounted or inflated that it comes in contact with any part of the vehicle. (This includes any tire contacting its mate in a dual set.) (396.3(a)(1))

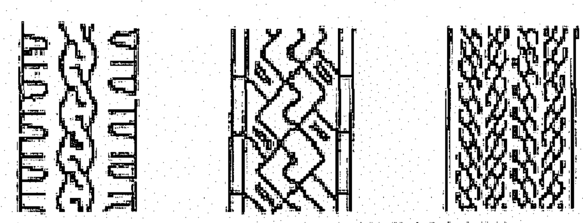
(6) Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure.

EXCEPTION: Does not apply to vehicles being operated under the special exclusion found in Federal Motor Carrier Safety Regulation. (393.75 (f)(1) and (2)

(7) So worn that less than 1/32 inch (.8mm) tread remains when measured in any two adjacent major tread grooves at 3 separate locations on the tire. (393.75(c))

(8) Seventy-five percent or more of the tread width loose or missing in excess of 12 inches (30cm) in circumference. (396.3(a)(1))





WHERE TO MEASURE MAJOR TREAD GROOVE (ORIGINAL TIRE TREADS)

11. VAN AND OPEN-TOP TRAILER BODIES

a. Upper Rail

(1) Broken with complete separation of the flange. (396.3(a)(1))

(2) Buckled or cracked when accompanied by missing, working (movement under stress) or loose fasteners at adjacent roof bows and/or side posts. (396.3(a)(1))

(3) Buckled or cracked when accompanied by broken, ineffective, or missing adjacent roof bows. (396.3(a)(1))

b. Lower Rail

(1) Broken with complete separation in the bay area accompanied by sagging floor, rail, or crossmember; or broken with loose, working (movement under stress) or missing fasteners at side posts adjacent to the crack. (396.3(a)(1))

NOTE: The lower rail of a van or open-top trailer can become gouged, chunked, or bent during operation. These are superficial damages only and do little to degrade the rail's strength or integrity.

(2) Drop frame trailers showing twists, bends, or fatigue cracking at the drop frame's elevation changes. (396.3(a)(1))

c. Floor Crossmembers

(1) Three or more adjacent broken, and/or completely detached from and sagging below the lower rail in the bay area. (396.3(a)(1))

(2) Broken floor accompanied by protruding freight and sagging crossmembers. (396.3(a)(1))

d. Side Panels on Fiberglass Reinforced Plywood (FRP) Trailers

Damage in the bay area that penetrates completely through the fiberglass and plywood resulting in a sagging lower rail. (396.3(a)(1))

GENERAL NOTES: These notes apply to every portion (a, b, c, and d) of item 11.

(a) These conditions are only considered Out-of-Service if the failure is in the bay area (aft of kingpin coupler plate and forward of the axle sub frame rails).

(b) Trailers 30 feet (9.14m) or less in length have a short bay area and are not as susceptible to catastrophic failures, therefore, only rail breaks accompanied by a sagging floor, rail, or crossmember are out of service for them.

(c) Rail, post, bow, crossmember, and side/front panel damage in areas outside the bay area are not imminently hazardous and should not be considered Out-of-Service unless they lead to conditions described in other sections of the Out-of-Service criteria (i.e., "10a(7) Tires").

12. WHEELS, RIMS, AND HUBS

a. Lock or Side Ring

Bent, broken, cracked, improperly seated, sprung, or mismatched ring(s). (393.205(a))

b. Rim Cracks

Any circumferential crack except an intentional manufactured crack at a valve stem hole. (393.205(a))

c. Disc Wheel Cracks

(1) Any single crack 3" (76mm) or more in length.

(2) A crack extending between any two holes including hand holes, stud holes and center hole.

(3) Two or more cracks any place on the wheel. (393.205(a))

d. Stud Holes (Disc Wheels)

Fifty percent or more elongated stud holes (fasteners tight). (393.205(b))

e. Spoke Wheel Cracks

(1) Two or more cracks more than 1 inch (25mm) long across a spoke or hub section. (393.205(a))

(2) Two or more web areas with cracks. (393.205(a))

f. Tubeless Demountable Adapter Cracks

Cracks at three or more spokes. (393.205(a))

g. Fasteners

Loose, missing, broken, cracked, or stripped (both spoke and disc wheels) ineffective as follows: for 10 fastener positions - 3 anywhere or 2 adjacent; for 8 fastener positions or less (including spoke wheels and hub bolts) - 2 anywhere. (393.205(c))

h. Welds

(1) Any cracks in welds attaching disc wheel to rim. (393.205(a))

(2) Any crack in welds attaching tubeless demountable rim to adapter. (393.205(a))

(3) Any welded repair on aluminum wheel(s) on a steering axle. (396.3(a)(1))

(4) Any welded repair other than disc to rim attachment on steel disc wheel(s) mounted on the steering axle. (396.3(a)(1))

i. Hubs

(1) When any axle bearing (hub) cap is missing or broken allowing an open view into hub assembly. (396.3(a)(1) or 396.7)

(2) Smoking from wheel hub assembly due to bearing failure. (396.3(a)(1) or 396.7)

NOTE: Not to be associated with smoke from dragging brake.

13. WINDSHIELD WIPERS

Any power unit that has an inoperative wiper or missing, or damaged parts that render it ineffective on the driver's side. (Applicable only in inclement weather requiring use of windshield wipers.) (393.78)

14. EMERGENCY EXITS (BUSES)

Emergency exits required by Section 393.61 that are missing, inoperable, or obstructed when passengers are on board. (Ref. 49 CFR 393.61(b), 393.61(c), 393.62, and 393.203)

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Part III

NORTH AMERICAN STANDARD HAZARDOUS MATERIALS OUT-OF-SERVICE CRITERIA

POLICY STATEMENT

The purpose of this part is to provide criteria for the abatement of unsafe conditions in the transportation of hazardous materials and is based upon the presence of any condition(s) which fail(s) to communicate the hazard(s) or is an imminent hazard.

Except where state, provincial, or federal laws preclude enforcement of a named item, motor carrier safety enforcement personnel and their jurisdictions shall comply with these hazardous materials Out-of-Service violation standards.

OUT-OF-SERVICE: Condition(s) categorized in this document as "Out-of-Service" shall not be allowed to continue in commerce until the condition(s) is/are corrected and the shipment complies with the applicable regulations. If, at the discretion of the inspector, it is less hazardous to the public to relocate the vehicle, it shall be towed, transported, or escorted to a safe location only at the direction of an official authority.

North America's Leading Commercial Vehicle Safety Organization

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1. **SHIPPING PAPERS - GENERAL**

Required to be present when required. An Out-of-Service condition exists when transporting hazardous materials not accompanied by a shipping paper which indicates the hazardous materials being transported.

2. **PLACARDING**

a. The required placards must be displayed on a transport vehicle.

*b. Number and Type of Placards:

An Out-of-Service condition exists when 50 percent or more of the required placards for a hazard class are missing or any placard(s) misrepresent(s) the hazardous materials being transported.

3. **BULK PACKAGES**

This section applies to specification packages, except that items "c" and e" apply to all packages.

a. Internal Valve (Missing)

An Out-of-Service condition exists if the internal valve is missing when required.

b. Internal Valve (Open)

An Out-of-Service condition exists when the internal valve is in the open position.

c. Bulk Package Authorization

An Out-of-Service condition exists when transporting hazardous materials in a bulk package not authorized for the material being transported. Unless otherwise indicated herein, specification shortages shall not disqualify an otherwise authorized package.

d. Venting Devices, Manhole Covers and Discharge Valves

Missing or improperly secured manhole covers, venting devices, or discharge valves constitute an Out-of-Service condition.

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e. Bulk Package Integrity

Hazardous materials leaking from a bulk package (including associated piping) constitutes an Out-of-Service condition.

f. Supports and Anchoring

An Out-of-Service condition exists when more than 25 percent of the anchoring mechanisms are ineffective.

4. TRANSPORT VEHICLE MARKINGS

a. The Required ID Numbers Must Be Displayed On A Transport Vehicle:

The ID numbers may be displayed on orange panels, a white square-on-point configuration, or incorporated with the placards. In Canada - placarded four sides at 500 Kgs (1,102 Lbs.) in bulk-retro-reflectivity placards, when required. An Out-of-Service condition exists when 50 percent or more of the required ID numbers are missing for each material or when any ID number misrepresents the material transported.

5. POISON INHALATION HAZARD (PIH) MARKINGS

a. Non-Bulk Packaging - Present When Required

An Out-of-Service condition exists when required markings are missing or illegible.

b. Bulk Packaging - Present When Required

An Out-of-Service condition exists when required markings are missing or illegible.

6. NON-BULK PACKAGING

Package Integrity

A hazardous material leaking in or from a package constitutes an Out-of-Service condition.

7. LOADING AND SECUREMENT

*a. Blocking and Bracing

Transporting HM/DG not blocked, braced, or secured as required by applicable regulation constitutes an Out-of-Service condition.

b. Product Compatibility

Transporting incompatible commodities constitutes an Out-of-Service condition, unless otherwise excepted.

c. Poison/Edible Materials

Transporting packages requiring poison labels in the same vehicle with foodstuffs, feed, or other edible materials intended for consumption by humans or animals constitutes an Out-of-Service condition, unless otherwise excepted.

NOTE: When initiating an Out-of-Service action, contact proper health authority within your jurisdiction.

8. FORBIDDEN ITEMS

Forbidden Materials

The transportation of forbidden items constitutes an Out-of-Service condition.

9. RADIOACTIVE MATERIALS - RADIATION LEVELS

Measured at Surface of Vehicle

An Out-of-Service condition exists when measurement exceeds 2mSv/hr (200 mrem/hour), at accessible surface of vehicle.

NOTE: When initiating Out-of-Service action, contact the appropriate health physicists, or radiation agency with jurisdiction.

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